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EDITORS' COMMENTARY

Thomas L. Forbes, MD, and **A. Ross Naylor, MBChB, MD, FRCS,** *Toronto, Ontario, Canada; and Leicester, United Kingdom*

During this era of evidence-based medicine where randomized controlled trials (RCTs) are king, we are constantly in search of level I evidence to guide us. The area of ruptured abdominal aortic aneurysms (RAAAs) is no exception, but unfortunately, the attainment of robust level I data has been elusive. The difficulty in performing such a study is one area where our authors agree. The recent Dutch attempt at an RCT, Amsterdam Acute Aneurysm (AJAX) trial, failed to show a difference in mortality between open and endovascular aneurysm repair (EVAR) groups.[1] However, before rushing to use this information to disparage endovascular repair for RAAAs, we need to remember that these findings were limited to the small subgroup of 20% of RAAA patients who were hemodynamically stable and anatomically suitable for EVAR as determined by a preoperative computed tomography (CT) scan. Given these inclusion criteria. It is little wonder that no difference was observed.

The more recent Immediate Management of the Patient with Ruptured Aneurysm: Open vs Endovascular Repair (IMPROVE) trial was of a much different design.[2] Rather than comparing EVAR and open repair in a subset of RAAA patients, this pragmatic trial compared an EVAR approach (CT scan and EVAR, if anatomically suitable) with an open repair approach (open repair, with or without CT scan) in all patients with a clinical diagnosis of an RAAA. Approximately half of the RAAA patients presenting to study sites were randomized, with a common reason for noninclusion being unavailability of an EVAR team. Although the study investigators noted a trend toward improved results with EVAR in women and with the use of local anesthesia, the 30-day mortality rates were similar between these two approaches by intention-to-treat analysis.

In the absence of convincing RCTs, proponents of EVAR for RAAA have relied on single-center and multicenter experiences comparing open and endovascular repair. As outlined in the debate, EVAR opponents point to the inherent biases in these reports and the selective reporting of results. Information regarding the choice between open and endovascular repair in these studies is often missing or variable. An exception is the only report of complete adoption of EVAR for all RAAA repairs that resulted in a significant reduction in perioperative mortality compared with the previous era of EVAR when possible.[3]

Of course, all of these reports, RCTs or otherwise, offer limited information regarding the entire RAAA cohort of patients because they include only those who undergo an attempted repair. This is not an unimportant issue, because a recent population-based study reported that 20% of RAAA patients in the United States and 41% in England did not receive any repair.[4] Lower mortality after the intervention was associated with larger hospital case loads, admission on weekdays, and increased use of EVAR.

Our authors would surely agree that no repair is a poor choice in most patients compared with any type of intervention, whether it be open repair or EVAR. It is with these patients who are turned down for repair where the greatest potential benefit exists, some of whom are not transferred when open repair is the only option and they are deemed too high risk. The wider adoption of EVAR for RAAA has the potential to create further high-volume centers with consistently available EVAR and open surgical expertise resulting in transfer of more patients and reduction in these turn down rates, regardless of the eventual method of repair. For this reason, wider adoption of EVAR for RAAA should be encouraged.

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